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TEXTILE BULLETIN

VOL. 47 JANUARY 3, 1935 No. 18

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Alphabetical Index to Advertisers Page 19

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TEXTILE BULLETIN

VOL. 47—NO. 18 JANUARY 3, 1935

A New Year's Message To Cotton Manufacturers

THE following New Year message has been dispatched to the more than 1,600 manufacturers operating under the Cotton Textile Code by George A. Sloan, chairman of the Cotton Textile Code Authority, whose resignation as president of the Cotton-Textile Institute becomes effective January 1st:

"For some the past year has been one of disappointment, of discouragement and of trying incidents. Its difficulties, however, have been met with a courage and determination which promise well for the future. However, there were accomplishments in the year which we, as an industry can, and will, look back to with satisfaction.

"The thing that impresses me most, perhaps because I have been in a situation to feel it most, is the increasing spirit of co-operation in the industry—increasing appreciation of the other fellow's point of view and situation—and the determination to arrive at an understanding in controversial matters. The Institute has benefited from this feeling by an increase of its membership to a new peak. This spirit has made possible the administration of the Cotton Textile Code with widespread support from within and without the industry and with an absence of that bickering which has been present in some other industries.

"Again there has been a realization of a greater uniformity in running time than in the years gone by. This is an objective for which the preponderant part of the industry has been striving during the past decade. The marked improvement in working conditions begun during the previous year has been continued, including a 77 per cent increase in average hourly wage rates over the low of the depression and a reduction of approximately 26 per cent in the maximum work week. At the same time, there has been a substantial improvement in economic conditions in the industry. There has been a change from the shocking losses of the industry as a whole over a ten-year period to a moderate return on investment in 1933 and the first half of 1934. While due to an important extent to appreciation inventory, this change in the financial situation has made it possible for the industry to restore some of the losses on working capital and to undertake again needed replacements and improvements.

In looking to the future, I cannot overestimate the tremendous importance of the machine hour limitation in the code. It doesn't require any stretch of the imagination to compare present conditions with our previous experiences when some mills were running single shifts of from 20 to 40 hours, some single shifts of 48, 55 and 60 hours, many on a double shift basis of 55/50 with some operating 55/55 and even 60/60. When we look back on such a situation, I wonder how the industry survived its own depression. But the answer is found in the broad-mindedness of a great majority of cotton mill executives and the growing desire among them to co-operate with one another in *acting* for the common good and in the helpfulness of the Government as expressed through the NRA in making it possible for the preponderant number of mills, large and small, to rid the industry of unsocial and uneconomic practices of the past.

"As we enter the New Year I would like to urge our industry to be constantly on the alert in protecting the right for which we have been striving so many years to rid the industry permanently of the menace of three shifts or other schemes of long hour operation. This industry was built as a daylight industry and in my humble opinion we can never have real stability for our stockholders and employees until we determine finally and conclusively that the midnight shift will not be tolerated.

"For many years the industry has concentrated its thought and effort on problems relating primarily to production, i.e., to a better balanced relationship between supply and demand, to the installation of modern equipment, to greater improvements in construction and design, etc. While there should be no relaxation in such efforts, I believe sufficient progress has been made, particularly in the greater uniformity in running time under the code, that the industry must now concentrate more of its attention on problems of distribution. Sound merchandising, it is true, must start with the proper balancing of production with demand, but sound merchandising involves more than this. Here again we have every reason to be hopeful because of the high type of merchants in our primary market who through force of circumstances have been obliged to devote much of their thinking in the past to production problems. Our merchants have been of inestimable aid to you and to me. Committees of selling agents, converters and finishers have worked unceasingly with mill committees in solving production problems. Now let's turn around and help them work for greater and more effective distribution. In this way, by application of greater sanity in both production schedules and distribution methods, we can achieve further economic and social improvement and make this industry second to none of the major industries of our country."

A Survey of Lubricants Used in the Cotton and Woolen Textile Industry

By C. H. Baxley[1] and C. M. Larson[2]

An Address Before Textile Division, A. S. M. E.

Most cotton and woolen mills have a well planned lubricating schedule which provides for the proper interval between lubricating periods and also for the use of certain grades of oils and greases for the many types of bearings, cams, gears and spindles encountered. Mills similarly equipped, however, vary not only the lubricating schedule, but also the grades and viscosities (size) of the lubricants for like operations. The simplification and standardization of essential lubricants is the chief concern of the authors of this paper.

The data included were obtained directly from the various mills, a sufficiently large number being interrogated to give a cross section of the industry as a whole and these data were then checked against the lubricant recommendations of the textile mill machinery manufacturers.

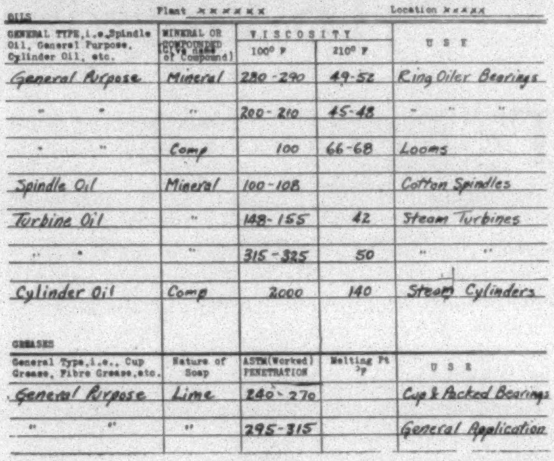
By placing the oils and greases into viscosity classifications, it was found possible to simplify this phase of specifying the proper grades of lubricants. In general, less than ten oils (classified according to viscosity alone) are required to lubricate a completely integrated mill, in addition to two to four grades of grease. The recommended lubricants have been charted for cotton and woolen textile mill machinery operations.

This paper represents the results of a survey made in the cotton and woolen textile industry to determine if the number of lubricants being purchased by the mills can be reduced or if those in use can be classified in any way.

The method of procedure was to survey the industry to determine what lubricants are actually being used by the mills and then to check these data against the recommendations of the textile mill machinery manufacturers. It was found that most cotton and woolen mills have a well planned lubricating schedule which had been worked out by the mill personnel to fit their particular conditions. However, it was also found that mills operating similar equipment vary not only the lubricating schedule but in addition, and more particularly of interest to this survey, the viscosities and grades of the oils and greases for such operations.

Obviously it would have been almost an impossible task to survey the entire industry although such a method would have been most desirable once the information had been correlated. As a practical expedient, the National Association of Cotton Manufacturers and the National Association of Wool Manufacturers were approached and asked to recommend representative lists of mills in their respective fields. In addition, recommendations were obtained from members of the A.S.M.E. Textile Division. A composite list of 150 mills was then formed and used as a basis of the survey. A questionnaire form designed to bring out the pertinent facts involved was mailed to this list and was followed up by subsequent letters. Personal calls were made in as many cases as possible.

The questionnaire form employed is shown in Figure 1. Referring first to the upper part of the form which covers "Oils," it will be seen that the information requested centered on viscosities at two temperatures, 100° F. and 210° F. For the "Greases," the soap base and data on consistency were requested. The questionnaire was purposely made just as simple as possible so that if the data were not at hand it could easily be obtained. In the letter that accompanied the questionnaire and explained its purpose it was specifically stated that brand names of suppliers were not desired. Data shown in Figure 1 are presented as typical of one of the better returns. Some returns, naturally, were excellent, others valueless, but the great majority contained worth while information even if the form was not entirely completed.



OILS Plant xxxxxx Location xxxxx

GENERAL TYPE, i.e. Spindle Oil, General Purpose, Cylinder Oil, etc.	MINERAL OR COMPOUNDED (Give name of Compound)	VISCOSITY 100° F	VISCOSITY 210° F	USE
General Purpose	Mineral	280 - 290	49-52	Ring Oiler Bearings
" "	"	200 - 210	45-48	" " "
" "	Comp	100	66-68	Looms
Spindle Oil	Mineral	100 - 108		Cotton Spindles
Turbine Oil	"	148 - 155	42	Steam Turbines
" "	"	315 - 325	50	" "
Cylinder Oil	Comp	2000	140	Steam Cylinders

GREASES

General Type, i.e., Cup Grease, Fibre Grease, etc.	Nature of Soap	ASTM (Worked) PENETRATION	Melting Pt °F	USE
General Purpose	Lime	240 - 270		Cup & Packed Bearings
" "	"	295 - 315		General Application

FIG. 1

The viscosities of a representative group of iols are plotted in Figure 2 on the standardized A.S.T.M. Temperature Viscosity Chart which is the present conventional form. Spindle Oils, several general purpose oils and some of the heavier lubricants encountered are shown. The purpose of this plot is to emphasize the change of viscosity with temperature and the necessity of knowing viscosity at two temperatures in order to have a clear understanding of the viscosity characteristics of the oils. In this connection, it should be remembered that the operating temperatures of the bearings are of particular importance because, knowing these temperatures, the corresponding viscosities of the oils can be found from curves similar to those shown. Another method of plotting viscosity data will be discussed later in the paper.

When the questionnaire information was at hand, summarized tables were drawn up in order to study the data to best advantage. General classifications immediately became evident. The Spindle Oils fell naturally into one rather compact group; general purpose oils varied over a wide range but have been considered as a group; oils for specialized applications such as Card Comb Boxes and for Looms form another class, in general at the other end of the viscosity scale; Power House Oils with the exception of Steam Cylinder Oils were considered as a group; and the Cylinder Oils were put into a separate group due to their obvious differences from the previous classifications. Oils from the last two groups also found application for lubricating purposes other than in the Power House, but since this was their principal function and also since it was the thought of the authors to consider the mills as a whole, the groups enumerated above seem to be logical. The viscosity data reported for the several groups mentioned in this paragraph are summarized below:

---

[1] Staff Engineer, Sinclair Refining Co., New York.
[2] Supervising Engineer, Sinclair Refining Co., New York.

	Saybolt Universal Viscosity
a. Spindle Oils	From 65 to 125 @ 100 F.
	" 36 to 41 @ 210 F.
b. General Purpose Oils	From 185 to 308 @ 100 F.
	" 44 to 5- @ 210 F.
c. Comb Boxes, Looms, Etc.	From 110 to 920 @ 100 F.
	" 39 to 66 @ 210 F.
d. Power House Oils	From 147 to 750 @ 100 F.
	" 42 to 60 @ 210 F.
e. Steam Cylinder Oils	From 99 to 160 @ 210 F.

In order to assist in the visualization of lubricant classification, a series of diagrams have been developed and are shown in Figures 3 to 5. This type of diagram has previously been presented to the society by one of the authors and it has been found most useful in plotting viscosity data. This is a viscosity versus viscosity diagram (viscosity at 100° F. versus viscosity at 210° F.) in which the Saybolt Universal Viscosity Scale of the A.S.T.M. chart (Figure 2) is used both for ordinate and abscissa. It means that a viscosity curve such as is shown in Figure 2 is designated by a point on the viscosity—viscosity diagram. The limiting classifications of Pennsylvania and Gulf Coast Base Oils are shown by the heavy black lines.

In Figure 3 the co-ordinates have been limited to the range of 60 to 150 seconds at 100° F. and 37 to 45 seconds at 210° F. As previously pointed out, the Spindle Oils fall within these limits and several oils have been plotted in Figure 3 as an indication of the range encountered in practice.

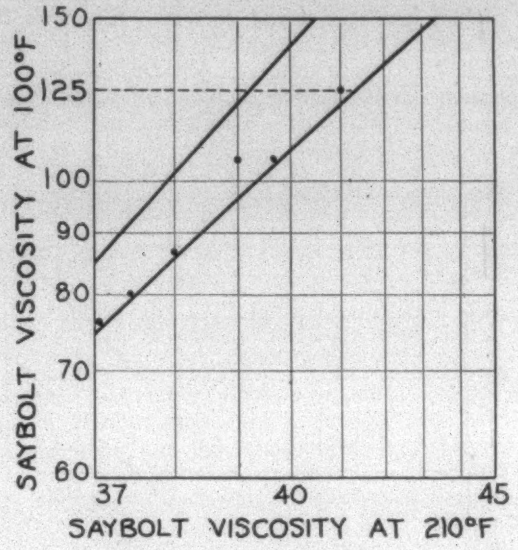


FIGURE 3 - VISCOSITY vs. VISCOSITY DIAGRAM - SPINDLE OILS (●)

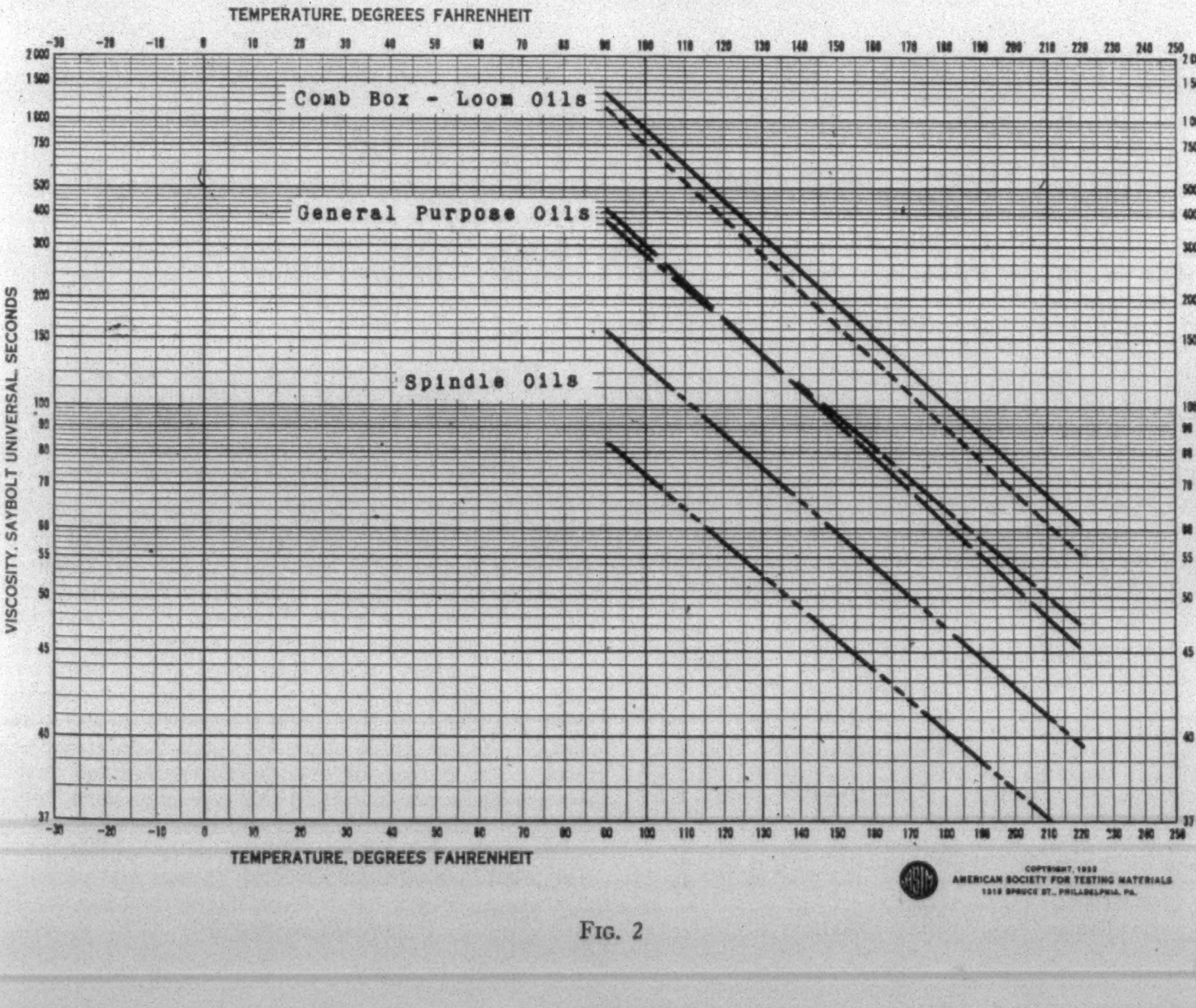


FIG. 2

In Figure 4 the co-ordinates have been extended to include the General Purpose Oils and the Power House group. The viscosities of these two groups overlap to a considerable extent as will be seen from the representative data plotted in Figure 4 and, therefore, they have been shown together. Figure 5 extends the diagram so that the Comb Box—Loom group of lubricants may be shown. No attempt has been made to plot the Steam Cylinder Oils since these lubricants are a distinct and well-known type.

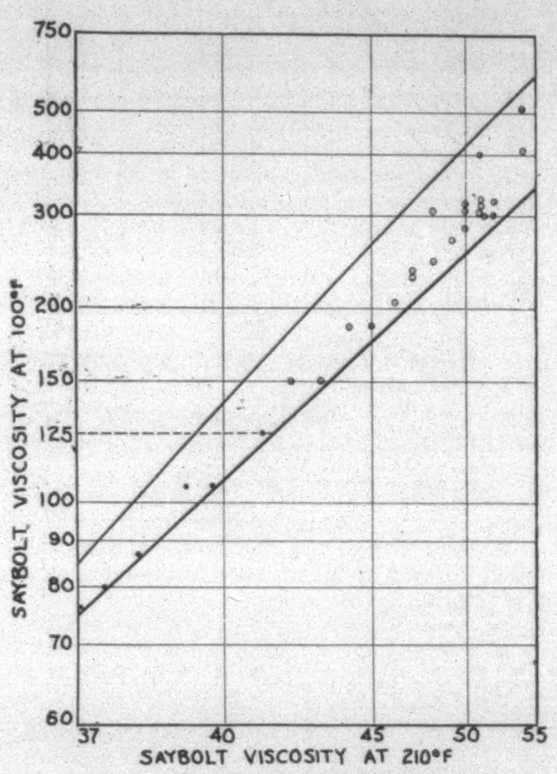


FIGURE 4 - VISCOSITY vs. VISCOSITY DIAGRAM EXTENDED TO INCLUDE GENERAL PURPOSE (●) AND POWER HOUSE GROUP (○)

With the foregoing data in mind, the suggested classification shown in Table 1 is presented by the authors for the thoughtful consideration of the Textile Division. This classification should be considered as purely a tentative set-up to be improved upon as occasion demands. The list comprises 10 lubricating oils. Any individual mill might find it convenient to get along on less than this number but it is felt that no mill should purchase a larger number of products to meet its requirements. The suggested classification, which is based primarily upon actual mill practice, will be found to be in general agreement with the recommendations of the textile machinery manufacturers.

Application	*Recommended Viscosity Saybolt Universal*
Spindle Oils	60— 80″ @ 100° F.
	80—100″ @ 100° F.
	100—125″ @ 100° F.
General Purpose Oils	180—240″ @ 100° F.
	240—300″ @ 100° F.
Power House Oils	140—160″ @ 100° F.
	300—320″ @ 100° F.
Comb Boxes, Looms, and Special Applications	400—600″ @ 100° F.
(Mineral and Compounded)	600—900″ @ 100° F.
Steam Cylinder Oils (Compounded)	140—160″ @ 210° F.

TABLE 1—SUGGESTED TEXTILE OILS

The information obtained on breases was found to be somewhat more difficult to classify than the oils. It probably can be said that every mill requires some greases and a few of the mills reported a multiplicity of products. Some mill operators seem to prefer a grease wherever possible whereas others will always use an oil for a similar purpose. In order to summarize, the principal applications where greases are indicated follow:

a. General Purpose—Chains, Gears, Etc. A calcium soap grease was universally used by the mills. The A.S.T.M. (worked) penetration number varied from 175 to 250.

2. Plain Bearings—Lubricated by Pressure Gun. For this type of service a calcium soap grease is generally used, the A.S.T.M. (worked) penetration number varying from 275 to 350.

c. Twister Rings. For the lubrication of Twister Rings and Travelers the usual method is to apply a small amount of a stainless grease several times a day. Such greases usually have a calcium soap base and an A.S.T.M. (worked) consistency of 300 (approximately).

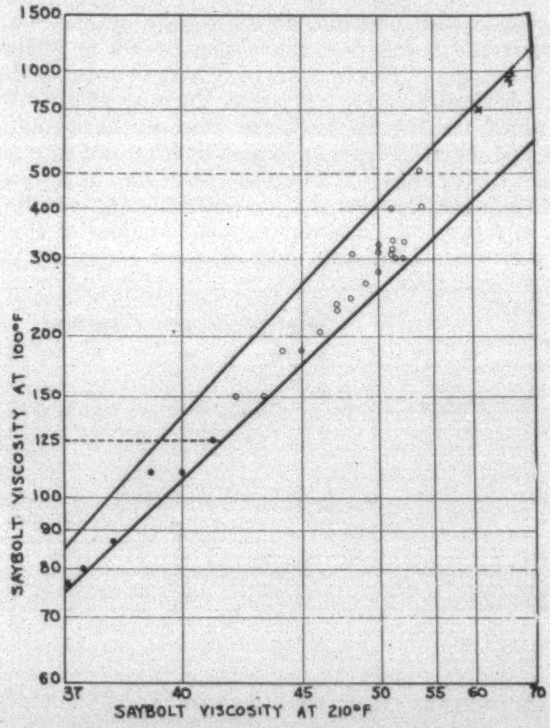


FIGURE 5 - VISCOSITY vs. VISCOSITY DIAGRAM EXTENDED TO INCLUDE COMB BOX - LOOM GROUP (✖)

d. Ball and Roller Bearings. The selection of a proper lubricant for ball and roller bearings is influenced by a number of factors other than the physical and chemical properties of the lubricant itself. However, it is generally agreed that a high quality grease is indicated for most anti-friction bearings and this is particularly true in the textile industry, where cleanliness is at a premium. Soda soap greases, due to their homogeneous fibrous character, have been found well adapted for this type of service. A high grade short fibre soda soap grease of about a No. 2 consistency (A.S.T.M. penetration numbers cannot be determined on this type of product) will afford excellent lubrication and will have no adverse effect on the bearing. Where ball and roller bearings have been lubricated with calcium soap greases and particularly where the mill has been on intermittent service, it

(*Continued on Page 20*)

The Problem of Applying Scientific Methods In The Cotton Textile Industry*

A Scientific Discussion of Labor Specialization

By J. J. McElroy

Superintendent Maverick Mills, East Boston, Mass.

Part Two

Working Out Task Factors in Weaving

The weave room is strictly an assembly department; therefore, I like to consider it as a separate business, demanding yarns of certain specifications, and rejecting all such materials not up to standard.

The degree of efficiency that may be obtained is closely related to the uniformity and quality of yarn. With reasonably uniform material the problem becomes more clean cut, and it is possible to study the relationship between factors and values such as are outlined briefly below. This schedule is far from being complete, and is given principally, to call attention to the fact that knowledge of all conditions is very essential both in maintaining a high efficiency unit, and in studying with the hope of further improvement.

(a) *Machines and Tools Used*

1. Layout of the looms, and division of the groups.
2. Atmospheric control. Heating and lighting.
3. Mechanical efficiency—looms, power transmission, motors.
4. Handling materials.
5. Standardization of supplies and quality.

(b) *Organization of Jobs*

1. Exact definition of each job in detail.
2. System of distribution of material, and maintenance of machines and power.

(c) *Compensation*

1. Measurement of work done by the operator.
2. Determination of rates.
3. Use of group methods and incentives.
4. Testing—actual determination of the work to be done, and analysis of the machines, system and personnel.

The last item (No. 4) is the final and important answer to any system, for if the testing and collecting of data is not done accurately and intelligently the resulting calculations will be in error.

Mr. Albert Palmer, of Crompton & Knowles Loom Works, has covered the subject of Weave Room Testing in several excellent papers, and a similar system of analyzation has been used in collecting most of the data. As I can add very little to Mr. Palmer's methods, we may simplify the matter by skipping the details of actual test study, and start with the statement that the following conclusions were reached.

In a well-laid-out weave room with automatic looms operating on a specialized system running substantially the same kind of gray goods, a first class, average weaver could be defined as follows:

> An operator who can handle, without fatigue, 66 stops of an average value of .5 mi. in 60 minutes.

This is further analyzed as follows:

	Pct.	Min. in Hr.
Stop correction	55	33=No. stops X Stop Value
Inspection and walking	35	21=Time available in between weaving attention.
Idle time	10	6=Time allowed for personal relaxation.

The important factors are the number of stops per hour, and the average value in decimals of a minute for each stop. The stops per hour are determined at the loom, and the stop value is likewise determined by the average time required by an average first-class operator to correct one stop.

Having decided by test the average stop value, the number of stops that the operator can handle is determined by dividing this value into 33, which is called the weaver's constant.

The stop value is the average of filling, warp and mechanical stops, and varies with the type of cloth, general conditions, quality of warping, and mechanical perfection of the loom.

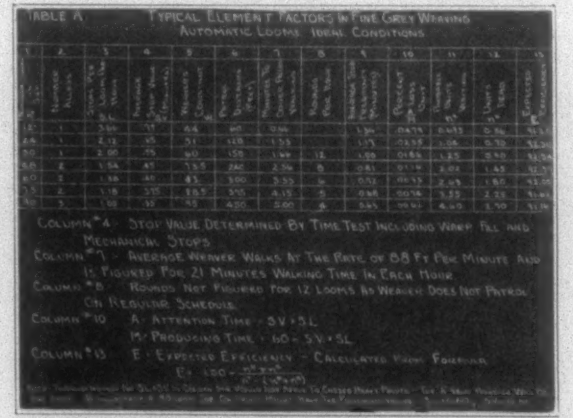


TABLE A TYPICAL ELEMENT FACTORS IN FINE GREY WEAVING
AUTOMATIC LOOMS IDEAL CONDITIONS

COLUMN #4 STOP VALUE DETERMINED BY TIME TEST INCLUDING WARP, FILL AND MECHANICAL STOPS
COLUMN #7 AVERAGE WEAVER WALKS AT THE RATE OF 88 FT PER MINUTE AND IS FIGURED FOR 21 MINUTES WALKING TIME IN EACH HOUR
COLUMN #8 ROUNDS NOT FIGURED FOR 12 LOOMS AS WEAVER DOES NOT PATROL ON REGULAR SCHEDULE
COLUMN #10 A = ATTENTION TIME = SV × SL
M = PRODUCING TIME = 60 − SV × SL
COLUMN #13 E = EXPECTED EFFICIENCY — CALCULATED FROM FORMULA

For a practical formula the length of patrol need not be considered for circuits 450 feet and less. Table "A" shows the average length of circuits of various combinations of looms. It also analyzes to some degree the time spent in walking and inspection.

At this point there might arise some question as to the ability of the Grade A weaver to do the work as indicated on this table. I wish to explain that he must be a first-class man, paid adequately, and operating efficient looms

TIGHT BINDING

equipped with pick counters under first-class conditions.

In order to give a relative comparison on the market values of weavers you might grade them as follows:

Class "A" weaver is a $22.00 man who corrects a standard character fault in .5 minutes.

Class "B" weaver is a $20.00 man who corrects a standard character fault in .55 minutes.

Class "C" weaver is an $18.00 man who corrects a standard character fault in .6 minutes.

The stop value figure is determined by observation and repeated tests, and will establish itself on a surprisingly even average in a given mill. Of course, it will vary in different mills making the same goods, because the loom conditions and warp preparation are seldom the same, in which case a Grade "A" weaver would take 3 or 6 per cent more or less time to make the correction, depending on the conditions.

Any experienced tester knows that a fast Grade "A" weaver will show on the same set more stops per hour than a slow Grade "A" weaver. The conclusion, if taken at its face value, would indicate a poorer running job with the fast operator.

It is, therefore, obvious that the general measure of loom performance (stops per loom hour) is influenced considerably by the operator's ability.

Mill men often make comparison of their particular weaving jobs, using the accepted stop per loom hour yard stick with no further specifications.

For example, one man says his tests indicate 1½ stops per loom hour on a 50-loom job, and it is running fine, and yet another man having only 1¼ stops per loom hour will have trouble running the same number of looms on a similar grade of goods.

In the second mill a possible combination of poor running warps, less efficient mechanical handling of the ends, bad lighting, and a lower grade of operator will produce this lower value for stops per loom hour which, if not further analyzed, makes the comparison valueless.

If, however, we also state the average time required in each mill to correct the stops, and also state the resulting efficiency an intelligent comparison can be made between a mill in the States and one in China.

It is well to remember that irrespective of the grade of the operator, the stop value is always the same for the machine and the man. This is a very important factor that must be considered in developing a job formula.

1. The first step is to determine the number of stops the operator can handle per hour.

(1) $W = \frac{T}{S.V.} = \frac{33}{S.V.}$ for grey goods, automatic weaving.

T=Fixed allowed time in each hour for machine attention. This is determined by time study tests for the department. For example, plain goods, automatic looms are standardized at 33 mi. as the average time that the weaver is to spend in each hour correcting faults. On spoolers it may be 45 to 50 mi., depending on the conditions.

S.V.=Stop Value, and is determined by actual test of different operators, averaged to get a fair value. A totallizing stop watch, and a hand counter used in a series of short tests will give an accurate answer. Tests may be any length of time, taken at intervals.

The total time divided by the total stops=S.V.

2. The second part is to determine the number of units the operator may handle.

(2) $N^t = \frac{W}{S.L.} = \frac{\frac{T}{S.V.}}{S.L.} = \frac{\frac{33}{S.V.}}{S.L.}$ for grey goods weaving.

S.L.=Stops per unit hour (which needs no explanation.)

3. The last answer desired is the expected efficiency of the job. Here we must consider the probability of active units being stopped waiting operators attention, and its relation to attention time per unit.

As the job increases in size the probable units waiting increases, and the attention per unit decreases.

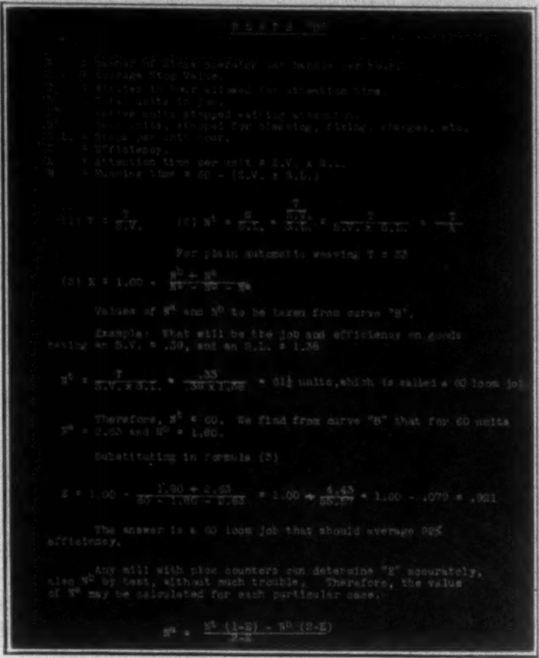


PLATE "D"

W = Number of stops operator can handle per hour.
S.V. = Average Stop Value.
T = Minutes in hour allowed for attention time.
N^t = Total units in job.
N^a = Active units stopped waiting attention.
N^b = Dead units, stopped for blowing, fixing, changes, etc.
S.L. = Stops per unit hour.
E = Efficiency.
A = Attention time per unit = S.V. x S.L.
R = Running time = 60 - (S.V. x S.L.)

(1) $W = \frac{T}{S.V.}$ (2) $N^t = \frac{W}{S.L.} = \frac{\frac{T}{S.V.}}{S.L.} = \frac{T}{S.V. \times S.L.} = \frac{T}{A}$

For plain automatic weaving T = 33

(3) $E = 1.00 - \frac{N^b + N^a}{N^t - N^b - N^a}$

Values of N^a and N^b to be taken from curve "B".

Example: What will be the job and efficiency on goods having an S.V. = .39, and an S.L. = 1.38

$N^t = \frac{T}{S.V. \times S.L.} = \frac{33}{.39 \times 1.38}$ = 61½ units, which is called a 60 loom job

Therefore, N^t = 60. We find from curve "B" that for 60 units N^a = 2.63 and N^b = 1.80.

Substituting in formula (3)

$E = 1.00 - \frac{1.80 + 2.63}{60 - 1.80 - 2.63} = 1.00 - \frac{4.43}{55.57} = 1.00 - .079 = .921$

The answer is a 60 loom job that should average 92% efficiency.

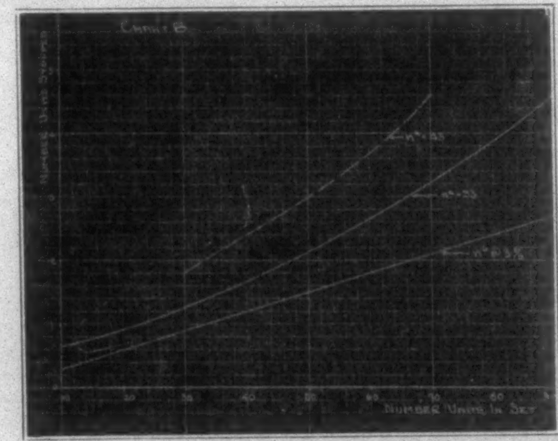
Any mill with pick counters can determine "E" accurately, also N^b by test, without much trouble. Therefore, the value of N^a may be calculated for each particular case.

$N^a = \frac{N^t(1-E) - N^b(2-E)}{2-E}$

In the formula shown on Plate "D" the units that may be stopped are classified into two divisions.

Na—Active units waiting attention.
Nb—Dead looms (stopped through no fault of the operator).

On a weaving job, Nb must be considered, whereas on a spooler job its value is zero. This will be discussed later.



Na value is a problem in probability, and the curve shown on Chart "B" has been constructed from the mean of three answers.

1. Observation spot tests for various size groups averaged over considerable time.
2. Mechanically recorded tests.
3. Working back through the formula (3) using known values for "E" and Nb.

The unit being worked on by the operator is always included in our value of Na.

If your looms are equipped with pick counters, you

(Continued on Page 12)

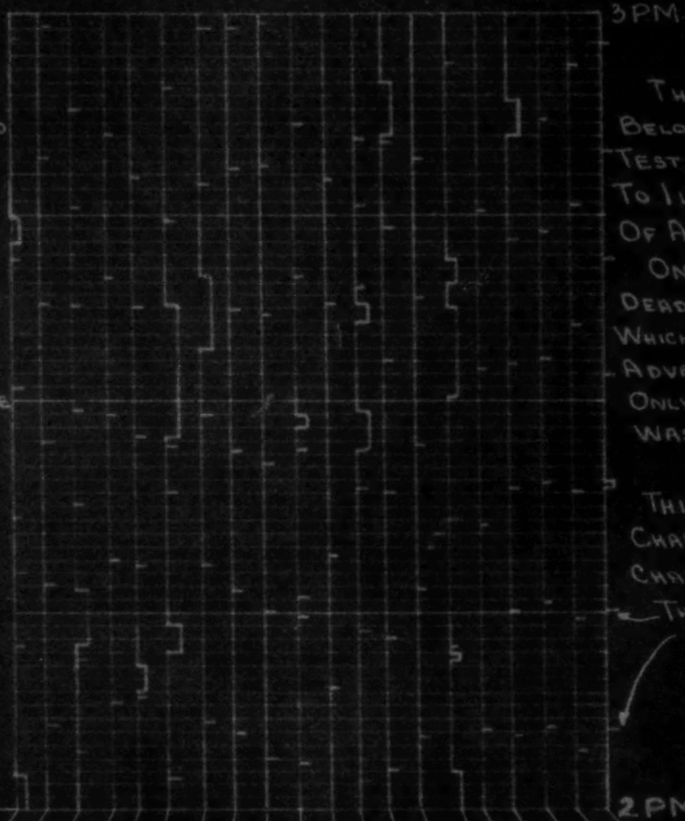
For Text Accompanying This Chart See Page 12

hart C

Example of Mechanically Collected Test Data

This is an exact tracing of
part of the chart used

ie Instrument Used Is A
en Electrically Operated
order Manufactured By
erline Angus Co.
Was Located in a Small
ce Outside the Weave
m and Wires Run To 20
ms in a 60 Unit Set
ata is Secured Without
wledge or Interference
he Operator



The Summary in the Table Below Covers a 10 Hour Test, Which Is Sufficient To Illustrate The Method Of Analysis.

On This Particular Test Dead Looms Were Not Presen Which Was Arranged In Advance.

Only Overseer Knew Instrumen Was Operating.

This Was A Shuttle Changing Loom Job Each Change Indicated Thusly.
This One Lasted 9 Minutes

lysis of One our Section	Stops	2	0	1	0	1	2	1	0	0	1	0	2	1	0	3	0	1	0	0	1
	Min.	5	0	4	0	2	12	6	0	0	1	0	5	4	0	10	0	3	0	0	1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Average Summary
S L	1.1	0.5	1.1	2.0	1.6	1.7	0.5	1.2	0.8	1.1	2.2	1.5	0.7	0.6	1.1	1.2	0.8	0.4	0.4	1.5	1.12
erage Stopped e Per Hour ctual Waiting Time	2.0	1.2	1.8	3.4	4.2	3.5	1.4	3.1	1.2	4.0	5.3	2.8	1.9	0.8	1.7	1.8	1.7	1.2	1.4	3.3	2.40
ficiency	96.5	98.0	96.8	94.4	93.2	94.3	97.8	94.8	98.2	93.6	91.3	95.6	97.0	98.8	97.3	97.2	97.3	98.2	97.8	94.5	96.13

Comments ① All Looms At 170 Pick Except #3 Which Is 212 & #17, 18, 19 & 20 At 185.

② Average Weaver Stop Value (SV) = 0.4 Min. And Represents 24% of Total Time Looms Were Stopped.

③ Value N^a In This Case $= \frac{2.4\text{(min)} \times 60\text{ (looms)}}{60\text{(min)}} = 2.4$ Looms

④ Note Average Value of S.L. Is Better Than Standard, Reducing N^a

PERSONAL NEWS

E. A. Hill, superintendent of the Clinton Cotton Mills, Clinton, S. C., is improving rapidly after having undergone a minor operation at a Charlotte hospital.

J. W. Hames recently resigned as superintendent of the Scottdale Mills, Scottdale, Ga., to accept a similar position with the Tifton Cotton Mills, Tifton, Ga.

John A. McFalls has resigned as general superintendent of the Morgan Mills, with plants at Laurinburg and Laurel Hill, N. C. The company will not employ a new general superintendent. Edwin Morgan, president of the company, will also act as superintendent.

Dr. Dale S. Chamberlin, former technical director of the R. K. Laros Silk Company, Bethlehem, Pa., and well-known expert on throwing and soaking, has joined the sales staff of the Warwick Chemical Company, West Warwick, R. I. He will be in charge of the development and sale of oil products for the preparation of silk and rayon in the throwing, sizing, knitting and weaving industry.

Edward F. Addis, who has been president of Meinhard, Greef & Co., factors, of New York City, has resigned that position to become affiliated with the Burlington Mills, Burlington, N. C. He will be treasurer and chairman of the executive committee. He has for a number of years been prominent in textile financing circles in New York and is widely known in the industry.

Cooper Heads Carded Yarn Group

At a recent meeting of the Cotton Textile Code Authorty's Subcommittee on Carded Yarn, Sydney P. Cooper, president of the Harriett Cotton Mills and of the Henderson Cotton Mills, both at Henderson, N. C., was elected chairman of the subcommittee. Sydney P. Munroe, assistant to the president of the Cotton Textile Institute, was at the same time elected secretary of the subcommittee.

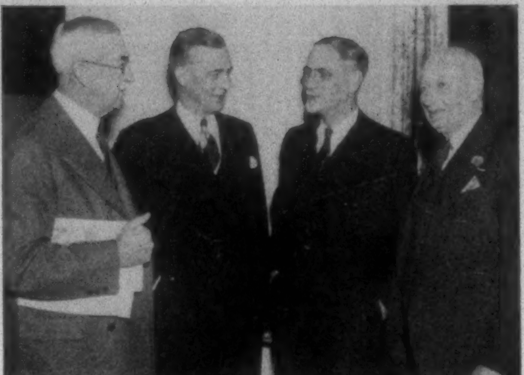
With a view to expanding representation of carded yarn spinners, the Code Authority has added Hyman L. Battle, of the Rocky Mount Mills, Rocky Mount, N. C., and J. Bruce McCullough, of the Franklin Process Company, Providence, R. I., as members of the Carded Yarn Subcommittee.

Two Overseers Killed By Mill Operative

Egan, Ga.—Henry T. Boynton, overseer of the cloth room, and James H. Kirkpatrick, assistant superintendent of the Martel Mills, were shot to death in the mill office Monday by J. A. Dudley, former employee of the mill. Boynton was killed instantly and Kirkpatrick died later in a hospital.

Dudley, according to a statement given police, in which he admitted the shooting, declared that he was not re-employed at the mill after the general strike and that he had gone to the mill office to ask for reinstatement. He is president of the local textile union and stated that he fired after Boynton advanced on him with an uplifted chair.

Kirkpatrick, before he died, said that Dudley came into the mill office, mumbled words he could not distinguish and began shooting.



TEXTILE MEN AT BUSINESS PARLEY

Prominent among business men taking part in the conference on commerce, industry and finance, recently held at White Sulphur Springs, were the above textile men. Left to right—W. D. Anderson, president of the American Cotton Manufacturers' Association; Goldwaite H. Dorr, president of the Cotton-Textile Institute; George A. Sloan, chairman of the Cotton Textile Code Authority, and Howard Coffin, chairman of Southeastern Cottons, Inc.

Says Industry Confident

New York.—The general feeling in the textile industry at the end of the year is one of confidence, Lincoln Cromwell, chairman of the board of William Iselin & Co., said in a year-end statement.

"Solomon's prayer has been granted the textile people in 1934," he said. "They have been given neither great riches nor great poverty. Profits have been moderate with the more fortunate, and so with losses to the least favored.

"Production has generally been smaller than a year ago when speculative buying ahead of the code restrictions on machine and employees' hours and the processing tax on raw materials, created a boom which increased manufacturing and wholesale selling to pre-depression volume in all branches of the textile field.

"The September strike lowered production below any level since June, 1932, in silk, rayon, wool and cotton, but all have recovered their lost volume, and the general feeling at the end of the year is one of confidence."

OBITUARY

MRS. EDWARD HOWARD

Friends of Edward Howard, Southern representative for the Veeder-Root Company, will learn with much regret of the death of his wife at their home in Greenville.

Mrs. Howard had been in declining health for several years. She was a native of Yarmouth, Mass., but had been making her home in Greenville for many years past. Prior to that Mr. and Mrs. Howard lived for 11 years in Charlotte.

In addition to her husband, Mrs. Howard is survived by one sister.

Funeral services were held here and burial was in Taunton, Mass.

INSTITUTE FOR RESEARCH IN SOCIAL SCIENCE

Former Union Treasurer Says Gorman Refused Aid To Strikers

Greenwood, S. C.—Miss Carrie Nash, former financial secretary of Local Textile Union No. 2171, composed of workers in the Greenwood and Grendel Mills here, in a signed statement, published in the local afternoon newspaper, declares: "I do not care for any more union experience and prefer to be dictated to, from now on, by someone I know personally and not Gorman."

Miss Nash also charges that Peele, Brookshire and Rogers, labor leaders in this State, "want the locals to stick together, for that's where their salary comes from."

Under the heading, "My experience in the Textile Union," Miss Nash's statement follows in full:

"When the union was first organized I was under the impression that such an organization had the financial backing of the U. T. W. A. in close co-operation with the A. F. L., which I understood had a large treasury.

"At the time the union was organized I was making a good living wage, and was aware of it, but at the same time I felt that if my joining the union and helping to support the organization it would at some future time be the means of increasing my own or other people's salaries, I was willing to do so.

"After joining I was elected to fill the office of financial secretary, therefore, I feel that I am in a position to know a few things that might be enlightening to others.

"Before the strike was called I had sent to James Starr, secretary to Francis J. Gorman, approximately $1,100. During the strike we received weekly bulletins from headquarters, issued by Gorman, telling us to hold fast, stick together, etc., that they were behind us and wide awake, which led us to believe that when we reached a crisis we would receive help from headquarters.

"After our local treasury was depleted our secretary was authorized by the president to send Mr. Gorman a special delivery, stating our circumstances. This being done, we waited a week, and, receiving no reply, a telegram was sent to Mr. Gorman telling him it would be impossible to carry on any longer without help. We received no reply from this.

"At the convention in Gaffney a resolution was drawn up and telegraphed to Mr. Gorman asking that a commissary be set up in Greenwood for the relief of the two locals, and to my knowledge Gorman hasn't been heard from yet.

"When Peele, Brookshire and Rogers come down and cry, 'Stick together, you've got the backing'—well, that's a huge joke. They want the locals to stick close together, sure, for that's where their salary comes from. The only help we ever got was from other locals, and if one local in Carolina has to help another, why is it necessary to send Gorman the money?

"Each month that I mailed Gorman's secretary a money order, usually around $150, there wasn't a minute lost in the time it took for it to get there and a receipt to get back here, thanking us and wishing us all kinds of success and hoping we would continue to grow. Of course that was natural, for so long as we continued to grow it meant more dollars in his pockets.

"Before the union was organized I didn't know of a single needy family in our community, and now I could name a dozen needy families. What has the union profited any of us? It has bred enmity among a few and brought hardships to many, and now Mr. Gorman doesn't even recall that there was ever a Local No. 2171 in Greenwood, S. C., or, if he does, there is no evidence of the fact.

"I sincerely hope that if anyone reading this happens to be a 100 per cent union member, or is still inclined to belong to a union, he or she will not be offended, for I have already stated the true facts.

"I do not care for any more union experience and prefer to be dictated to, from now on, by someone I know personally and not Gorman.

"CARRIE NASH,
"329 Grove St., Greenwood, S. C."

The Textile Foundation

At a meeting of the directors of the Textile Foundation held recently in Washington, it was decided to continue the program of scientific research on problems related to the textile industry and the productio nof textile fibers for another year.

Although in many cases the title does not adequately describe the scope of their undertaking or the specific approach to certain research aspects, the following list of fellows indicates the nature of their work and where it is being carried on.

John B. Calkin, Cornell University, Adsorption and Absorption of Solutions by Textile Materials; Maxwelton S. Campbell, University of North Carolina, Disposal and Recovery of Textile Waste; A. J. Frantz, Lehigh University, Effect of Bacteria and Vegetable Oils on Silk; Mearl A. Kise, Yale University, Fundamental Study of Silk; Donald R. Morey, Cornell University, Application of Polarized Light to Textile Research; Robert D. Nutting, Massachusetts Institute of Technology, Application of the Spectrophotometer in Solution of Textile Problems; John S. Reese IV, Massachusetts Institute of Technology, Quantitative Method for Describing the Rate of Exhaust in Continuous Dyeing; Donovan J. Salley, Princeton University, Protective Effects in Textile Deterioration and Dye Fastness; Wayne A. Sisson, University of Illinois, X-Ray Analysis of Fiber; Werner Bergmann, Yale University, Biochemical Research on Silk; and, Bryce Prindleton, Massachusetts Institute of Technology, Microbiology of Textile Fibers.

The directors received progress reports on several studies now under way, including the following subjects:

1. The Training of Men for the Textile Industries.
2. Flax Production, Preparation and Utilization.
3. Regional Variety Tests on Cotton Production.

Flax was planted in fifteen different localities principally along the Atlantic seaboard. Careful records were made of the harvest and production costs. The straw was then shipped to Clemson College, S. C., where, under the direction of H. H. Willis, it was run through preparatory machines. Experiments are now being conducted on the utilization of this fiber on cotton and worsted machinery, and for paper making.

The experiments on the community production of limited type cotton were conducted over the cotton belt, under the auspices of the Bureau of Plant Industry of the Department of Agriculture, and an analysis of the results is now being made.

A proposal to engage in research on the warp sizing of cotton and synthetic fiber yarns was acted on favorably, and a co-operative program of work will soon be started under the auspices of the United States Institute for Textile Research.

The Problem of Applying Scientific Methods in the Cotton Textile Industry

(Continued from Page 8)

should get an accurate "E" answer for any job, and Nb can be determined by simple observation quite accurately, so each mill may check their value of Na without going into the difficult task of getting an answer from the observed test method, which is not only costly, but influenced to some extent by the psychology of the operators under test.

The value of Na will vary a little in different weaving mills, being effected by their particular allowance for attention time, which we will touch on later. I feel that the error that may be in our idea of the curve is relatively small, and the curve is satisfactory for practical use.

In collecting test data on this subject we should keep in mind that causes of faults are of no interest, as all we wish to measure is actual operators input, and resulting machine output.

For this type of work we have found an electrically operated chart recorder a valuable instrument, and have included to show how this mechanically obtained data was analyzed. (See Page 9.)

Nb value (dead looms stopped for cleaning, changes, pick outs, fixing, etc.) is considered a constant percentage, and can be determined quite accurately by observation test in each mill.

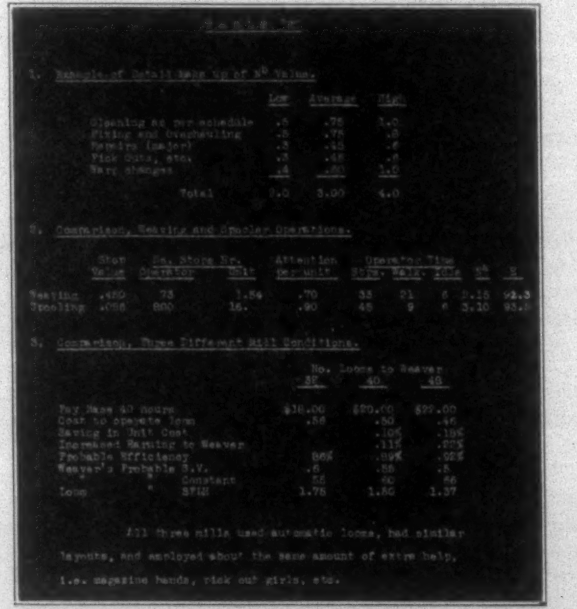


TABLE "E"

1. Example of Detail Make up of N^b Value.

	Low	Average	High
Cleaning as per schedule	.5	.75	1.0
Fixing and Overhauling	.5	.75	.8
Repairs (major)	.3	.45	.6
Pick Outs, etc.	.3	.45	.6
Warp changes	.4	.60	1.0
Total	2.0	3.00	4.0

2. Comparison, Weaving and Spooler Operations.

	Stop Value	No. Stops Hr. Operator	No. Stops Hr. Unit	Attention per unit	Operator Time Atts.	Operator Time Walk.	Operator Time Idle	N^a	E
Weaving	.480	73	1.54	.70	33	21	6	2.15	92.3
Spooling	.056	800	16.	.90	45	9	6	3.10	93.[illegible]

3. Comparison, Three Different Mill Conditions.

	No. Looms to Weaver 32	40	48
Pay Base 40 hours	$18.00	$20.00	$22.00
Cost to operate loom	.56	.50	.46
Saving in Unit Cost		.10%	.18%
Increased Earning to Weaver		.11%	.22%
Probable Efficiency	86%	.89%	.92%
Weaver's Probable S.V.	.6	.55	.5
" " Constant	55	60	66
Loom " STPS	1.75	1.60	1.37

All three mills used automatic looms, had similar layouts, and employed about the same amount of extra help, i.e. magazine hands, pick out girls, etc.

Table "E," group 1, indicates how it may vary in different mills, or on various kinds of goods. Looms stopped for various fixed operations is expressed in per cent.

The curve on Chart "B" is figured at a 3 per cent average.

Returning again to value Na. The probability of units stopped waiting attention is governed by the relation of the following variable factors:

1. The number of machines in the set.
2. (a) The attention time per unit hour.
   (b) The walking and inspection time per unit hour.
   (c) The idle, or personal time per unit hour.

For example, on a 50-loom weaving job 55 per cent is allowed for (a), 35 per cent for (b), and 10 per cent for (c).

On a 50-spindle spooling job, 75 per cent is allowed for (a), 15 per cent for (b), and 10 per cent for (c).

A curve Na—45 per cent is shown on Chart "B" to indicate the difference, as we found it, on the probability of units stopped between a loom job and the much more condensed spooler task.

A formula to determine the value of Na is certainly desirable. It is, however, a problem for the expert mathematician, and I believe we shall have to use the empirical answer until a practical formula is available.

The above two cases represent the extremes usually found in job characteristics. Time will not permit further discussion of the application of this general approach to other jobs in the mill, but as a rule they all may be handled in a similar way, and result in good efficient tasks with little danger of stretching out the job excessively.

In order to show the difference in job characteristics a 50-unit job in weaving and spooling is contrasted in Table "E," group 2. Most cases of spinning and carding job operations fall in between. Spinning and carding is a subject that is worthy of separate discussion; consequently, I will not attempt to indicate the character of their operation values.

Strange as it may seem, there are a number of operating mill executives in the industry who sincerely feel that the whole idea of task specialization is economically wrong, and that no real benefit has been derived in the way of lower unit costs.

I, therefore, have included in Table "E," group 3, which shows the set-up in three different mills making similar fabrics.

While this table shows some estimated conclusions, I feel certain that it is a reasonably true comparison, and it is particularly interesting as it shows the relative difference in earnings and efficiencies that might exist under different managements.

In conclusion, I wish to express my thanks for the cooperation of those mills who have contributed test data and information.

I trust others will bring forth papers covering formulas for various operations so that there will be a general movement toward developing reliable formulas that will not restrict mechanical and technological progress.

It is difficult to mix economics, engineering, and human endeavor in a workable formula which must have an economic answer. However, we can determine reasonable factors of safety in using human material just as an engineer does when using steel and iron. We can also determine the value of the worker's energy expressed in terms related to the machine, so I feel confident that each problem may be solved.

It seems that uniform hours of work will become a permanent institution, thus establishing a new fundamental condition that will eventually equalize labor markets throughout the Nation to a degree never before attained. This is an advance that will tend to improve general standards of textile labor, discourage exploitation as has been done in the past, and develop competition on a better basis where there will be greater need for more intelligent, scientific management.

CHARLOTTE, N. C.—Hudson Silk Knitting Company, just incorporated here, plans to erect a new full-fashioned hosiery mill within a short time. The company was organized by the owners of the Hudson Silk Hosiery Company, now operating a similar mill here, but the new company will be operated as a separate organization. Fritz Seifert is president and M. E. Pierson is secretary.

The new plant will be located on a site near here which has not yet been selected.

Investments, Costs and Profits In Textile Industry

Complying with an executive order of September 26, 1934, the Federal Trade Commission sent on January 1st to the President and made public the first part of its report on its investigation of "labor costs, profits and investments of companies and establishments in the textile industries."

The report just made is covered in the following statement from the commission:

That portion of the report made covers only the investments, earnings and rates of return of broad groups in the textile industry. Subsequent portions of the report will make further analyses of costs of labor, raw materials, etc., sales and profits on sales of groups of companies engaged in specific operations in specific divisions in each branch of the industry, such as spinning and weaving, and dyeing and finishing in the cotton industry, and similarly for other branches, groups and geographical divisions of the textile industries.

This part of the report by the Federal Trade Commission has no counterpart in the reports called for from the Bureau of Labor Statistics of the Department of Labor in the same Executive order. The commission is advised that the Bureau of Labor Statistics will shortly make reports on wages, hours and working conditions in the separate branches of the textile industry, which will parallel the subsequent portions of the report of the Federal Trade Commission. When the data compiled by the Bureau of Labor Statistics has been reported, the commission contemplates the use of such data in conjunction with that which the commission has assembled in the preparation of additional studies and analyses to be reported as directed in the Executive order.

Of the 765 textile mills whose investments and income are included in the tabulations for the twenty months' period, 409 are cotton mills, 129 are woolen mills, 201 are silk or rayon mills, 19 are thread mills and seven are cordage mills.

The report shows the total investment of 765 reporting companies engaged in the textile business as being $1,184,030,714 for the first six-months' period covered by the investigation. For that period, the investment of these companies, exclusively in the textile business, was $1,029,101,882. For the two-monthhs' period from July 1st to August 31, 1934, the last period covered by the investigation, this investment total had increased about $50,000,000 or to $1,079,907,019.

Of the $1,029,101,882 invested exclusively in the textile business for the first six-months' period covered by the investigation, that is, January 1st to June 30, 1933, $661,351,226 was invested by 409 companies in the cotton textile business; $163,380,124 was invested in the woolen textile industry by 129 companies; $113,675,141 was invested in the silk and rayon industry by 201 companies; $43,847,587 was invested in the thread industry by 19 companies and $46,846,804 was invested in the cordage business by seven companies.

For the six-monthhs' period from January 1st to June 30, 1933, the total income of the 765 mills, *before deduction of interest on borrowed money, and before deduction for Federal income tax,* was $22,016,007. Of this amount the income of the 409 mills in the cotton textile industry, including dyeing and finishing, was $15,514,316; the income of the 129 woolen mills was $1,554,178; for the same period mills in the silk and rayon industry operated at a loss of $815,489; in the thread industry the income for that period was $2,870,012 for the 19 mills, and for the seven cordage mills reporting the income was $2,892,990.

For the same period, January 1st to June 30, 1933, the annual rate of return of the 409 mills in the cotton textile industry was 4.69 per cent. The rates of return for the other branches of the textile industry represented in the 765 mills reporting were as follows: 129 woolen mills, 1.90 per cent of income; 201 silk and rayon mills, 1.43 per cent loss; 19 thread mills, 13.09 rate of return; seven cordage mills, 12.35 per cent rate of return.

For the second six-monthsh' period, July 1st to December 31, 1933, the investment of the 765 mills exclusively in the textile industry was $1,062,872,925. Of this investment, $677,891,561 was in 409 cotton mills; $181,022,606 was in 129 woolen mills; $110,973,702 was in 201 silk and rayon mills; $44,986,703 was in 19 thread mills, and $47,998,353 was in seven cordage mills.

For the same period the income of the 765 mills, *before deduction of interest and before deduction for Federal taxes,* was $51,662,477, as follows: 409 cotton mills, $32,520,677; 129 woolen mills, $13,538,109; 201 silk and rayon mills, loss $294,645; 19 thread mills, income $2,861,965; cordage, seven mills, $3,036,371.

Rate of return for the period, July 1st to December 31, 1933, was as follows: 409 cotton mills, 9.59 per cent; 129 woolen mills, 14.96 per cent; 201 silk and rayon mills, .53 per cent loss; 19 thread mills, 12.72 per cent income; seven cordage mills, 12.65 per cent.

For the third period, January 1st to June 30, 1934, the investment of the 765 mills exclusively in the textile business was $1,096,184,322, as follows: 409 cotton mills, $701,115,573; 129 woolen mills, $188,914,758; 201 silk and rayon mills, $109,877,974; 19 threads mills, $46,604,169; seven cordage mills, $49,671,848.

For the same period the income *before deduction of interest on borrowed money and before Federal income tax deductions,* totalled $24,261,506, as follows: 409 cotton mills, $18,040,593; 129 woolen mills, $542,288; 201 silk and rayon mills, $579,910; 19 thread mills, $3,025,649; seven cordage mills, $3,232,886.

For the same period the annual rate of return for the 409 cotton mills was 5.15 per cent; for the 129 woolen mills, .57 per cent; for the 201 silk and rayon mills, 1.06 per cent loss; for the 19 thread mills, 12.98 per cent income; for the seven cordage mills, 13.02 per cent.

For the two months immediately preceding the strike, July 1st to August 31, 1934, the investment of the 765 companies made exclusively in the textile business was $1,079,907,019, as follows: For the 409 cotton mills, $696,563,836; for the 129 woolen mills, $181,816,343; for the 201 silk and rayon mills, $109,783,223; for the 19 thread mills, $44,312,696; for the seven cordage mills, $47,430,921.

For the same period the income return of the 665 mills, *before deduction of interest on borrowed money, and before deduction for Federal income tax,* showed a loss of

(*Continued on Page* 21)

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Contributions on subjects pertaining to cotton, its manufacture and distribution, are requested. Contributed articles do not necessarily reflect the opinion of the publishers. Items pertaining to new mills, extensions, etc., are solicited.

New Year Wishes

THIS is the time for the expression of wishes for the New Year.

We wish for textile manufacturers more PROSPERITY and less NRA.

We wish for textile labor a continuation of the minimum wage and if possible even higher wages and more days of employment.

We wish for the cotton farmers prices which will enable them to live upon a better scale.

We wish for the taxpayers a prospect that Federal expenditures will cease to climb.

We wish for those with capital a chance to again invest in industrial enterprises with an assurance of a profit for themselves so as to be able to give employment to others.

We wish for those without capital a chance to secure legitimate and honest employment and to be freed from the taint of Federal charity.

We wish for the "Brain Trust" a journey back to the class rooms in which they formerly taught socialism and communism.

We wish for President Roosevelt less advice from Mrs. Roosevelt and Miss Perkins.

Francis Gorman Appears

FRANCIS J. GORMAN, the Englishman who kicked Thos. F. McMahon into oblivion and has assumed the role of dictator to the United Textile Workers, appeared in North Carolina last Friday and Saturday and made addresses at Charlotte, Belmont and Lexington.

He did not visit Danville, Va., where he conducted an unsuccessful strike about four years ago, much to the regret of a number of citizens of that community, who have a great desire to form a contact with him.

The appearance of Francis J. Gorman meant one thing and one thing only, and that was that the collection of union dues had reached a very low point.

The army of printers who are now acting as saviors for the cotton mill employees had become alarmed lest the collections dwindled to the point that they would be forced to go back to the setting of type and it was thought that a visit from Gorman might revive payments.

John Peel, George Googe, Brookshire and others have been living off mill operatives so long that they have probably forgotten how to set type and it would be rather hard on them to be forced to go to work again.

One thing is certain and that is that the National Textile Relations Board can not order, Peel, Googe et al, re-employed in cotton mills because they never did work in a mill and mills do not have printing plants.

It is well known that many local unions have surrendered their charters and others are inactive without even taking the trouble to return their documents.

On page 11 will be found a very interesting statement by Miss Carrie Nash, the former financial secretary of a local union at Greenwood, S. C.

Her statement, which was published in the Charlotte Observer and other newspapers, confirms what we have just said about local unions surrendering their charters. Her statements about the union's effort to obtain the promised relief during the strike and the refusal of Francis J. Gorman to even answer letters or telegrams when she demanded part of the money which her union had sent to New York, confirms the statements which we made during the strike.

During the United Textile Workers meeting in New York just before the strike it was stated that there was "less than $1,000,000" in the treasury and Miss Nash is apparently one of those who resented the stalling of Mr. Gorman when the union members asked for some of their own money.

A newspaper account of the visit of Francis J. Gorman last week said:

> During his address Gorman also paid his respects to David Clark, describing him as a hireling of the manufacturers. He ridiculed what he said Clark had charged about his having rooms at the Willard Hotel and getting a salary of $50,000 per year.

We have never stated that Gorman received $50,000 per year nor have we said that during the strike he lived at the New Willard Hotel in Washington.

We did say that during the strike he had a suite of nine rooms at the New Willard Hotel and that one of the rooms was fitted with every convenience for newspaper reporters. We can also say that he was very liberal with "refreshments" and that all of the expenses of the rooms and the entertainment came out of funds collected from cotton mill employees.

Miss Nash in her letter has explained what was going on at the mills while Mr. Gorman had the expensive suite in the New Willard Hotel.

Mr. Gorman made several addresses and many false statements about the textile industry and the so-called stretch-out, but the failure of "his" strike has doomed his organization in the South and some of the printers will soon take up printing again.

The textile industry is not perfect and there are things which we would like to see improved, but mills can not operate full time until they get more orders and they can not pay better wages until the buyers of goods are prosperous enough to pay better prices.

Francis J. Gorman has no place in the textile industry of the South.

He should go back to his England where, after forty years under complete union domination and the closed shop, textile wages are lower than they were in North Carolina and South Carolina before the Cotton Textile Code was adopted.

Rather Funny

A GROUP of people are now making a strenuous effort to have the States ratify a constitutional amendment which says:

The Congress shall have power to limit, regulate and prohibit the labor of persons under 18 years of age.

They are working night and day and spending large sums of money, secured from sources which are a mystery to us, to get the States to give Congress the right to control the labor of persons under 18 years of age.

While this is going on, almost the same group of people are trying to force upon the people of the States, laws recently enacted by Congress for the regulation of the labor of persons of all ages.

They are saying that unless the citizens of the several States obey the 40-hour law, the minimum wage law and numerous other Congress-made laws and unless they obey the orders of a labor board created by Congress, they will be hauled before the courts and cast into jail.

They are saying on the one hand that the Federal Child Labor Amendment must be ratified by 36 States in order for Congress to have the right to regulate the labor of persons under 18 years of age.

On the other hand they are claiming that Congress now has the right to regulate the labor of all persons.

Seldom if ever have two such contradictory positions been taken at the same time and to us it appears rather ridiculous.

The truth is that the Administration and the "Brain Trust" know that Congress has no power to enforce any of the present efforts to regulate industry.

We are much in favor of the minimum wage and are hoping that some plan can be evolved whereby it can be retained under a code, but even that can not be enforced.

The Federal Government is but the servant of the Sovereign States, and has only such powers as has been conferred upon Congress by the States.

The States reserved policing powers which means the right to control the labor and the conduct of its own citizens. There is a provision that any reserved powers must be surrendered when so ordered by three-fourths or thirty-six States but no such mandate has ever been issued by the States.

It is funny to see one of those organized minorities which control Federal legislation working to get the States to give Congress the right to regulate the labor of persons under 18 years of age while their associates are proclaiming that Congress now has the right to regulate the labor of all persons.

Incomplete Report

IN response to an order of President Roosevelt, the Federal Trade Commission has just filed a report on Investments, Costs and Profits in the Textile Industry. The report is published elsewhere in this issue.

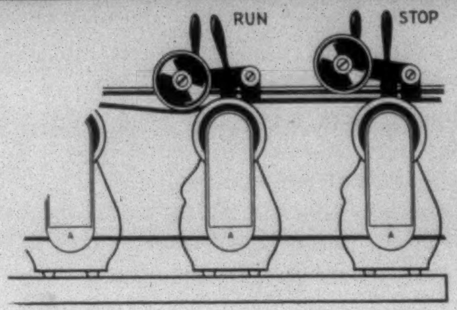
The Commission finds that the Southern mills showed greater earnings than the New England mills. Unfortunately, some of the newspapers have drawn rather hasty conclusions regarding mill profits from the report.

To begin with, although the Commission asked 2,600 mills for information, the report is based on reports from only 765 mills.

Mill incomes shown in the report are before deduction for interest and before deduction for Federal taxes.

It appears to us that for these two reasons the report is too incomplete to have any great significance at this time.

forget CLUTCH TROUBLES



Hundreds of mills have changed their No. 50 machines from clutch to new L-Type Drive, and now—in addition to forgetting clutch troubles—they benefit from

(1) less supervision needed
(2) reduced maintenance cost
(3) lengthened life of drive belt
(4) slow start of spindle
(5) one belt for 12 spindles

UNIVERSAL 50 L DRIVE

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1728

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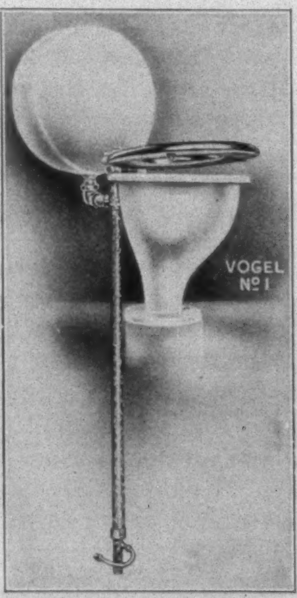

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WILMINGTON, DELAWARE ST. LOUIS, MO.
VOGEL *Frost-Proof* Products

MILL NEWS ITEMS

LINCOLNTON, N. C.—The old Wampum Cotton Mills has started under new ownership and managership. The mill was purchased recently by W. W. Glenn and associates and is now known as Threads Spinners, Inc.

ANDERSON, S. C.—Officials of the Gossett Mills announce that contract will be awarded shortly for a 65-foot extension to the Ladlassie Mills, a unit of the local Gossett Mills, in the near future. The cost of the addition was not made known, inasmuch as final estimates on the building had not been made.

The extension will be effected for the purpose of housing a number of rayon looms formerly located in another of the plants. The idea, an official said, is to centralize the rayon manufacturing department of the chain.

It was indicated that work will be started on the new addition within the next few days. The specifications will call for standard mill construction to match the remainder of the plant.

GASTONIA, N. C.—Henry McKelvie, resident agent for the Manville-Jenckes Company, of Manville, R. I., which owns the Loray Mill here and the High Shoals Mill at High Shoals, says he had instructions to close both plants indefinitely. Goods now in process of manufacture will be run out and this will require about eight weeks, McKelvie said. The resident agent announced no reason for the close-down.

Both plants have been operating at about 25 per cent of capacity for several weeks.

The Loray plant, which manufactures tire fabric, employs 3,000 workers when running at full capacity.

The High Shoals Mill manufactures fine dress goods and employs 800 to 1,000 workers.

There were persistent rumors here that the plants would be sold, but McKelvie declined to deny or confirm these.

JOHNSON CITY, TENN.—While no contract has been executed between the Burlington Mills, Greensboro, N. C., and the Johnson City Industrial Corporation for leasing the Gloria Textile Company plant here, this action is expected to be taken when the board of directors of the Burlington Mills meets during the first week in January.

According to E. J. Wagner, secretary of the Johnson City Chamber of Commerce, the Industrial Corporation is a subsidiary of the chamber of commerce, which has approved a five-year lease. This is now in the hands of Spencer Love, an official of the Burlington Mills, who will present it to the board meeting, and will, he says, recommend the leasing of the plant.

If the contract is executed, the plant will be reopened before spring, employing about 150 persons and weaving rayon fabrics.

BEDFORD, VA.—A new corporation organized by Adolph H. Klein and associates, of Klein Bros., New York City manufacturers and distributors of Marillyn silks, will operate a plant to be established here for the manufacture of rayons and acetates. Sale of the Armstrong plant to Mr. Klein and associates by Landon Lowry and Hunter Miller, commissioners in the creditors' suits of the Overstreet-Smith Lumber Company and others against the Bedford-Armstrong interests and others, was recently

MILL NEWS ITEMS

consumated and plans were made public for remodeling, painting and otherwise improving the factory building, in which a new heating plant and sprinkler system will be installed.

The plant will be equipped to manufacture approximately 2,500 pieces per month, which will provide employment for about 200 persons.

A. H. Klein is president of the Marillyn Silk Mills, which have a 12,000-spindle and 130-loom plant in White Mills, Pa. M. A. Bornstein is treasurer of the mills.

GREENSBORO, N. C.—The Hunter Manufacturing and Commission Company, acting through its counsel, Richard C. Kelly, of Greensboro, bid in, subject to court confirmation, all the properties and assets of Pomona Mills, Inc., with a bid of $649,000.

The mill proprety was sold at auction under a court order, and confirmation hearing will take place in Superior Court here Monday, January 7th.

The mills employ about 550 workers. Following the Christmas holidays, they will resume operations January 3rd with sufficient orders booked to remain in operation steadily for several months. The purchaser agrees to fill these orders.

The Hunter Company, with a claim of $400,000, was the largest claimant against the mills, of which Norman A. Boren, Greensboro attorney, has been receiver for a number of months.

The receiver had allowed claims aggregating $424,366.50, but lacked sufficient money with which to pay these claims. For some months the mills had been operating at a loss.

PELZER, S. C.—Pelzer Manufacturing Company, of Pelzer, S. C., and subsidiary companies report for the fiscal year ended September 30, 1934, an operating loss after all charges, including inventory write-downs, of $367,219, it was shown at the annual meeting in Boston.

The operating loss compares with a loss in the fiscal year ended September 30, 1933, of $84,419. Sales for the past fiscal year totalled $3,914,600, as against $3,629,096 a year ago.

In a statement to the stockholders, Allan McNab, president of the company, said that it has been decided to liquidate the Lisbon Spinning Company, a subsidiary with 32,716 spindles, located at Lisbon, Me. Liquidation is now under way.

Relative to the operations of the company, Mr. McNab said that the losses were largely accounted for by the decline in manufacturing margins, good prices failing to respond to the advancing price of raw cotton, which had increased over 25 per cent by the end of the year, while goods prices remained substantially the same.

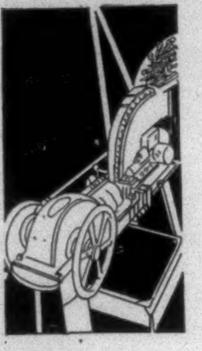
"In addition to the advance in the price of raw materials and the higher manufacturing costs due to the increased wages and shorter hours, the industry," Mr. McNab pointed out, "has had to bear the heavy burden imposed upon it by the cotton processing tax, the amount if which for these companies during the year was $445,110, being nearly one-third of their total manufacturing labor costs."

Referring to the general textile strike last September, Mr. McNab said that, although there was no local controversy at either the Pelzer or Tucapau, S. C., plants,

HOW TYPE K

BOBBIN STRIPPER

LOWERS COST



In November we told you how Type K machines help to reduce waste and how they prevent damage to your bobbins.

This month we want to tell you about some other advantages which offer worthwhile savings to every mill using less efficient methods of bobbin cleaning.

DECREASES BOBBIN INVESTMENT

Cleaning of 100 to 120 bobbins a minute makes large reserve stock of bobbins unnecessary. This means a smaller investment in bobbins for the user.

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Type K Bobbin Strippers clean both automatic Northrop bobbins with rings and plain loom bobbins without rings. Where lengths and bobbin diameters are approximately the same, both kinds may often be cleaned at the same time without change of adjustment.

Write today, without obligation, requesting a Terrell representative to estimate the savings Type K will make in your mill.

the new **TYPE K** *Bobbin Stripper*

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MR. LUTHER PILLING, *Danielson, Connecticut, Representative for N. Y., N. J., Pa., New England States, and Canada*

GEO. THOMAS & CO., LTD., Manchester, England, *European Agents*

both these plants were closed down during September, which in itself constituted a material factor in the amount of the operating loss sustained.

Concerning changes in the company's products, Mr. McNab said: "The marked decline in manufacturing margins on fine combed cotton yarn fabrics, demand for which has fallen off in favor of cheaper goods, made it advisable to curtail the manufacture of these goods, which was started at one of the plants of the company about five years ago, and to concentrate all the manufacturing on carded print cloth goods, wide sheetings and crash toweling. This change, which was initiated early last summer, will be completed shortly.

"At the same time, changes are being made to generally simplify the fabrics produced at all the mills. With these changes in effect, a smaller number of operatives will be required, and it is accordingly planned to operate the mills on a double shift schedule, which, under the textile code, has become the standard basis of operations for most of the industry, and which has not been possible before with these mills, due to an inadequate supply of labor. Manufacturing costs will be reduced by all these changes."

HUNTSVILLE, ALA.—Judge Paul Speake has announced that the sale of the Helen Mills of Alabama to the Werthan Bag Company of Nashville, Tenn., December 3rd on its high bid of $22,500 in a public receivership auction ordered by the Circuit Court here, has been confirmed. The intentions of the purchasers regarding disposal of the knitting mill plant and other machinery have not been disclosed. There are bonds outstanding against the property amounting to $102,000, with several years of accrued interest, and taxes of $4,518 have accumulated.

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Including Squeeze, Mangle, Padder, Jig,
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GARLAND
LOOM PICKERS and
LOOM HARNESSES
GARLAND MFG. CO. SACO, ME.
G
TRADE MARK

BESSEMER CITY, N. C.—The Gambrill & Melville Mill, which has stood in almost continuous idleness here since last March, is now operating at capacity with orders to guarantee full time operation for many weeks to come, officials of the company announced.

"Firsts in America"

North American Rayon Corporation has published a 32-page institutional booklet titled "Firsts in America," signalizing recent completion of their enlarged plant at Elizabethton, Tenn.

The new trademark of the company, painted by Howard Chandler Christy, is featured on the cover in four-color offset process, and the same color work is used throughout the book in full-page illustrations of fashions and fabrics representing varied uses of North American rayon yarn. Photographs for the book were made by Thomas Bouchard, Arthur O'Neill, and Pach Bros. An interesting Bouchard study of drapery and upholstery fabrics shows a Tony Sarg marionette king seated on a throne made of fabrics. A fabric cutout figure by Maud Fischer presents a variety of novelty velvets, crepes and sheers. All the fashion photographs, and several still life studies of cones and skeins of yarn, are reproduced through the four-color "Deeptone" offset process from black and white photographs hand painted by Maurice Kassel. The book is edited by Theodore Wood of North American Rayon Corporation.

"Firsts in America" presents interesting notes as to significant initial industrial and commercial developments in this country, alphabetically arranged for ready reference, beginning with the statement that the first automobile was invented by Henry A. House and was driven through the streets of Bridgeport, Conn., in 1866, operated by steam, and concluding with the note that the first wire rope factory was erected in 1841 in Saxonburg, Pa., by John A. Roebling, who also designed and built the Brooklyn Bridge.

The center spread of the booklet is devoted to a double page photograph showing an air view of the North American plant at Elizabethton. A brief history of the company, under the heading "Up to Now," traces its development since its inception in 1927.

"Operations were first started on August 1, 1928," the booklet records. "Production in that year amounted to less than 500,000 pounds. In 1930, it had increased to nearly 7,000,000 pounds and the following year 1931—the capacity of the plant reached approximately 15,000,000 pounds.

"Extensive alterations were commenced in 1933 for the purpose of perfecting newer and finer type yarns, as well as increasing the production. These changes were completed about the middle of 1934 and the capacity of the plant today amounts to approximately 20,000,000 pounds of rayon per year. . . . . Originally the plant manufactured the simple type of 150 denier yarn composed of 32 individual filaments. Later, a 100 denier of 40 filament construction was added. The natural tendency of all rayon manufacturers has been toward finer and finer yarns. As a result of constant experimentation and endless tests, the North American Rayon Corporation is proud to announce that it is now producing in its plant in Tennessee the finest rayon yarn that has ever been produced commercially by any company anywhere—a 60 denier yarn consisting of 60 individual filaments. In addition there is the full range of commercial numbers."

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Cotton Mills in Texas Lower Production

Austin, Tex.—The cotton textile industry in Texas continues to present a drab picture in contrast with the favorable situation which prevails in most other branches of trade and industry in the State, according to the University of Texas Bureau of Business Research. During November only 2,283 bales of cotton were consumed in Texas mills, a decline of 3.4 per cent from October of the current year and a drop of 61 per cent from November, 1933.

Cloth produced, 3,931,000 yards, was down 7.7 per cent from October and 35 per cent from November last year. Sales of cloth, 3,230,000 yards, were up 38 per cent from October but 28 per cent below November a year ago. Unfilled orders on the last day of November totalled 8,707,000 yards, an increase of 9.2 per cent from October 31st, but 15 per cent below November 30th last year.

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WEAVING OF RAYON and RAYON LOOMS

This book, written by a recognized authority, is accepted throughout the textile industry as the standard work on this important subject. Previous editions have been used for many years as text books in schools and colleges, and sales to mill men both here and abroad, have been most gratifying.

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CHARLOTTE, N. C.

BULLETIN
Classified Ads

Bring Results at Low Cost

Make Your Wants Known Through This Medium

A Survey of Lubricants Used in the Cotton and Woolen Textile Industry

(*Continued from Page 6*)

has been found that the balls and races become pitted and often require replacement.

A grease will often be used to lubricate the loom gear and for the rolls of roving and spinning frames, twisters, etc., but the applications listed above seem to be the ones most frequently encountered. Recapitulating, the greases generally used are shown in Table 2.

Application	*Soap Base*	*A.S.T.M. (Worked) Penetration*
General Purpose	Calcium	175 to 250
Plain Bearings	"	275 to 350
Twister Rings	"	300 (approx.
Ball and Roller Bearings	Soda	No. 2 (approx.)

TABLE 2—SUGGESTED TEXTILE GREASES

Before leaving the subject of greases it should be mentioned that a number of mills are still using some form of semi-fluid grease to lubricate the card comb boxes. Earlier in the paper it was pointed out that viscous oil is preferred by many operators and is also recommended by the machinery manufacturers. The authors feel the oil method of lubrication meets the conditions to much better advantage and wish to make a definite recommendation to the members of the Textile Division in this connection.

Operating Management Must Control Accidents

"The success of a cotton mill, a foundry, or any other manufacturing establishment to control accidents is proportional to the ability of the operating management. Accident prevention cannot be a thing apart, a supernumerary plaything, but must be part and parcel with the manufacturing program. When understood as such, and treated with the same degree of understanding and interest as every other variable in the production program, its success reflects the success of the plant as an enterprise."

Thus did Arthur S. Johnson, assistant to the manager, engineering department, American Mutual Liability Insurance Company, sum up the responsibility for accident prevention control in industry, speaking before the Textile Club at its December meeting. Taking for his subject, "The Ability of the Mill Management to Control Accidents," he pointed out that the management of a mill is responsible for the accident total just as it is responsible for the aggregate manufacturing costs.

The employment of overseers and their responsibility for accidents in their respective department; the hiring of employees, with regard not only to their ability, experience, etc., but from the viewpoint of physical fitness for the job, attention to hazards, and willingness to follow safe practices; the safe maintenance of property and machinery; and supervised training in accident prevention were discussed in their relation to managerial responsibility.

"All effort for accident control is merely the building of its parts into your manufacturing system," and he said, "All accidents, minor as well as lost time accidents, had several contributing causes, and each accident contained potential possibilities for more serious consequences. It is their study and analysis which charts your course. When your safety engineer points out a rising frequency of accidents, don't blame it on bad luck. Search out the causes and correct them. It can be done because it has been done, not once, or spasmodically, but continuously. A good accident record is a challenbe to your ability as a mil lsuperintendent."

1934 Review of Cellulose Products Developments Hercules Powder Co.

Wilmington, Del.—Nitrocellulose is the chief product manufactured by the Cellulose Products Department of Hercules Powder Company. In 1934, the various types of viscosities were made to the most exacting limits of uniformity ever attained by Hercules.

Important during the year was the continued research at the Hercules Experiment Station in Wilmington to make even better nitrocellulose and to investigate new applications for it. Among these new developments, the application of lacquers to paper and cartons received unusual attention. Nitrocellulose lacquer is finding increased use in the general packaging field.

According to Hercules engineers and chemists, the future will witness a greater and greater use of nitrocellulose products.

TORNESIT

Nineteen hundred and thirty-four marked the evolution from an experimental to a commercial product. Tornesit is a chlorinated rubber base, from which can be formulated paints, emulsions, binders, adhesives, and plastics, with remarkable chemical resistance.

Hercules chemists consider it one of the most important new materials in the protective-coating industry since the discovery of nitrocellulose as a base for lacquers. Hercules' new plant for the manufacture of Tornesit in this country is nearing completion at Parlin, N. J.

Investments, Costs and Profits in Textile Industry

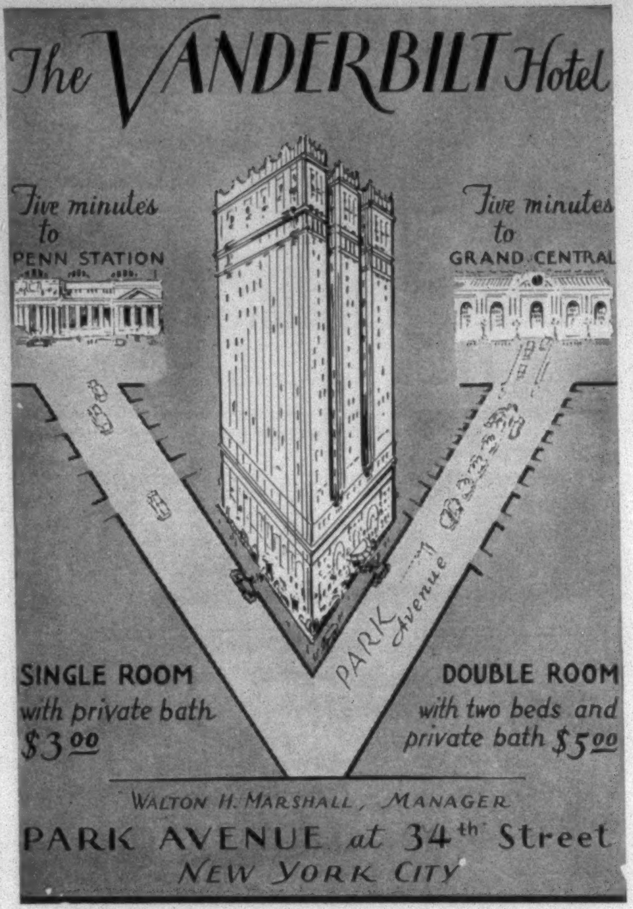
(Continued from Page 13)

$4,667,578. For this period of two months only the thread and cordage mills showed a profit, the 19 thread mills reporting a profit of $408,702, and the seven cordage mills a profit of $412,421. The 409 cotton mills showed a loss of $2,141,392. The 129 woolen mills showed a loss of $2,238,947, and the 201 silk and rayon mills reported a loss of $1,108,362.

For the same two-months' period the annual rate of return tabulation shows that 409 cotton mills operated at a loss of 1.84 per cent; the 129 woolen mills at a loss of 7.39 per cent and the 201 silk and rayon mills at a loss of 6.06 per cent. For the same two months the 19 thread mills showed an annual rate of return of 5.53 per cent and the seven cordage mills a return of 5.22 per cent.

The commission received a total of 2,308 reports from companies in the textile industry. The 765 included in the tabulations contained in the report represent 43.8 per cent of the spindles in the cotton textile industry; 36.8 per cent of the spindles in the woolen and worsted industry, and 22.8 per cent of the looms in the silk industry.

The commission had the names of approximately 2,600 companies on its mailing list as of November 24th, and when tabulations were closed for this part of the report as of December 10th, a total of 2,308 reports had been received, of which only 765 were included in the tabulations. Nearly 400 of the reports contained no financial information usable in the tabulations. Others are being held awaiting supplemental information for periods different from those covered by the commission's tabulations inclusion of which would destroy the comparability desired for the different periods.



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DOUBLE ROOM with two beds and private bath $5.00

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COTTON GOODS

New York.—The cotton goods markets were fairly active during the week. Prices were firm at the close after a number of advances had been put into effect. Prices on print cloths were an eighth cent higher than during the previous week and good sales were made for February shipment. Higher prices also developed on some of the narrow sheetings, fine goods and some of the finished lines. The stock position of the mills has been considerably improved due to the fact that sales made in December were well above production.

Business in other lines ran well ahead of the volume usually done during the last week of the year. Sales of tire fabrics, wide goods for the mechanical trade and cotton duck were larger. Printed percales were again advanced a quarter of a cent under the influence of larger business.

Fine goods markets were firmer and sales of good quantities were made at higher prices. Mills were offering futures only cautiously and buyers needing quick deliveries found only moderate quantities available. A number of buyers came in for goods and found the market a good deal stronger than they had supposed. The extent of the improvement in the statistical position of such goods as combed lawns, combed broadcloths, piques, waffle cloths and some other constructions had not been realized and many in the market are not yet fully cognizant of the significance of this development. Mills have no appreciable quantities of early deliveries to liquidate and have a sufficient backlog of unfilled orders to permit them to take a firm price position on their future deliveries. Where there have been weak spots these have been cleaned up in the moderate trading of the past week or so. The fine goods mills will enter the new year in a better position to profit by the seasonal spring buying than has been the case in many years.

Print cloths, 27-in., 64x60s	4¾
Print cloths, 28-in., 64x60s	4⅞
Gray goods, 38½-in., 64x60s	6⅞
Gray goods, 39-in., 80x80s	9¼
Gray goods, 39-in., 68x72s	7⅞
Brown sheetings, 3-yard	10
Brown sheetings, standard	10½
Tickings, 8-ounce	19
Denims	15
Dress ginghams	16½
Brown sheetings, 4-yard, 56x60	8¼
Staple ginghams	9½
Standard prints	9½

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YARN MARKET

Philadelphia, Pa.—Trading in cotton yarns continued rather active last week. Dealers here reported that the business done for the month of December was far ahead of expectations. Total sales for the month were the largest in any month in the year.

While quotations tended higher in the carded section the advances amounted to no more than one-half cent a pound, most contracts going through on the low levels which had obtained hitherto during recent weeks. There had been placed orders for a fair number of 50,000 to 100,000 pounds, others calling for 200,000 and 300,000 pounds. The usual assortment of sales for less than 25,000 pounds were a daily experience.

Considerable business has been placed for forward delivery, but at prices that show but little advance from the lows of recent weeks. This has been rather disappointing to those who feel that they are warranted in thinking in terms of higher values, some of whom go so far as to suggest that on the stronger market quite evidently in the making for the new year that the buyers on these low prices may find difficulty later on in securing delivery.

The inability of yarn prices to make any definite recovery is attributed by some observers to the apparent over-production of yarns taking place. Only in some such way can the placing of contracts as low as 26½c per pound basis of ordinary quality carded cones be explained. Cotton spinning activity in November showed only a slight decline of 7 per cent in the total spindle hours of the industry and it may be considered an open question as to whether or not the entire industry is a little too optimistic in assuming that this vast output can be observed without price disturbance.

Combed peeler yarn sales recently have ranged somewhat above the weekly average back to last spring, both in single and ply yarn, and the spinners in this department are understood to have imprtant promotional plans which, if carried out, should go far toward offsetting the drastic competition which combed cotton yarns have encountered from yarns spun of other fibers.

Southern Single Warps	
10s	27 -__
12s	27½-__
14s	28 -__
16s	28½-__
20s	29½-__
26s	32½-__
30s	34½-35
40s	40 -41
Southern Single Skeins	
8s	26½-__
10s	27 -__
12s	27½-__
14s	28 -__
20s	29½-__
26s	32½-__
30s	34½-__
36s	38 -__
40s	40 -41
Southern Two-Ply Chain Warps	
8s	27 -__
10s	27½-__
12s	28 -__
16s	29 -__
20s	30 -__
24s	32 -__
26s	33 -__
28s	34 -__
30s	34½-35
30s ex.	35½-36½
40s	41 -42
Southern Two-Ply Skeins	
8s	27 -__
10s	27½-__
12s	28 -__
14s	28½-__
16s	29 -__
20s	29½-30
24s	32 -__
26s	33 -__
28s	34 -__
30s	34½-35
40s	41 -42
40s ex.	43 -44
50s	50 -__
Duck Yarns, 3, 4 and 5-Ply	
8s	27 -__
10s	27½-__
12s	28 -__
16s	29 -__
20s	30 -__
Carpet Yarns	
Tinged carpets, 8s, 3 and 4-ply	22½-24½
Colored strips, 8s, 3 and 4-ply	26½-__
White carpets, 8s, 3 and 4-ply	26½-27½
Part Waste Insulating Yarns	
8s, 1-ply	22 -__
8s, 2, 3 and 4-ply	22½-__
10s, 2, 3 and 4-ply	23 -23½
12s, 2-ply	24 -__
16s, 2-ply	27 -__
20s, 2-ply	28½-__
30s, 2-ply	34 -__
36s, 2-ply	38 -__
Southern Frame Cones	
8s	26½-__
10s	27 -__
12s	27½-__
14s	28 -__
16s	28½-__
18s	29 -__
20s	29½-__
22s	30½-__
24s	31½-__
26s	32½-__
28s	33½-__
30s	34½-__
40s	41 -__

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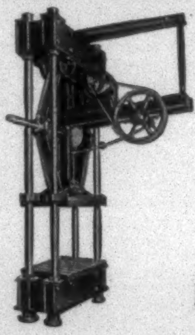

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Osborn Mfg. Co., Materials Handling Div., 5401 Hamilton Ave., Cleveland, O. N. C. and S. C. Rep., Engineering Sales Co., 601 Builders Bldg., Charlotte, N. C.

Onyx Oil & Chemical Co., Jersey City, N. J. Sou. Rep., Edwin W. Klumph, 1716 Garden Terrace, Charlotte, N. C.

Perkins & Son, Inc., B. F., Holyoke, Mass.

Philadelphia Belting Co., High Point, N. C., E. J. Payne, Mgr.

Rhoads & Sons, J. E., 35 N. Sixth St., Philadelphia, Pa. Factory and Tannery, Wilmington, Del.; Atlanta Store, C. R. Mitchell, Mgr.

Robinson & Son Co., Wm. C., Dock and Carolina Sts., Baltimore, Md. Sou. Office, Charlotte, N. C., B. D. Heath, Sou. Mgr. Reps., Ben F. Houston, Charlotte, N. C.; Fred W. Smith, Charlotte, N. C.; H. J. Gregory, Charlotte, N. C.; A. R. Brand, Belmont, N. C.; Porter H. Brown, No. 6 Bellflower Circle, Chattanooga, Tenn.; Jasper M. Brown, Charlotte, N. C.; C. M. Greene, 1101 W. Market St., Greensboro, N. C.

Saco-Lowell Shops, 147 Milk St., Boston, Mass. Sou. Office and Repair Depot, Charlotte, N. C., Walter W. Gayle, Sou. Agent; Branch Sou. Offices, Atlanta, Ga., John L. Graves, Mgr.; Greenville, S. C.

Seydel Chemical Co., Jersey City, N. J. Sou. Rep., Harold P. Goller, Greenville, S. C. Francis B. Boyer, Lowell, Mass.

Seydel-Woolley Co., 748 Rice St. N. W., Atlanta, Ga.

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Stein, Hall & Co., Inc., 285 Madison Ave., New York City. Sou. Office, Johnston Bldg., Charlotte, N. C., Ira L. Griffin, Mgr.

Sterling Ring Traveler Co., 101 Lindsey St., Fall River, Mass. Sou Rep., Geo. W. Walker, P. O. Box 78, Greenville, S. C.

Stewart Iron Works, Cincinnati, O. Sales Reps., Jasper C. Hutto, Box 43, Greensboro, N. C.; Peterson-Stewart Fence Construction Co., 241 Liberty St., Spartanburg, S. C.

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Textile-Finishing Machinery Co., Providence, R. I. Sou. Office, Johnston Bldg., Charlotte, N. C.

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Universal Winding Co., Providence, R. I. Sou. Offices, Charlotte, N. C., Atlanta, Ga.

U. S. Ring Traveler Co., 159 Aborn St., Providence, R. I. Sou. Reps., William W. Vaughan, P. O. Box 792, Greenville, S. C.; Oliver B. Land, P. O. Box 158, Athens, Ga.

Veeder-Root Co., Inc., Hartford, Conn. Sou. Office, Room 1401 Woodside Bldg., Greenville, S. C., Edwin Howard, Sou. Sales Mgr.

Victor Ring Traveler Co., Providence, R. I., with Southern office and stock room at 137 S. Marietta St., Gastonia, N. C. Also stock room in charge of B. F. Barnes, Jr., Mgr., 1733 Inverness Ave., N. E., Atlanta, Ga.

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Whitin Machine Works, Whitinsville, Mass. Sou. Offices, Whitin Bldg., Charlotte, N. C., W. H. Porcher and R. I. Dalton, Mgrs.; 1317 Healey Bldg., Atlanta, Ga. Sou. Reps., M. P. Thomas, Charlotte Office; I. D. Wingo and M. J. Bentley, Atlanta Office.

Whitinsville Spinning Ring Co., Whitinsville, Mass. Sou. Rep., W. L. Nicholson, 2119 Conniston Place, Charlotte, N. C.

Wolf, Jacques & Co., Passaic, N. J. Sou. Reps., C. R. Bruning, 1202 W. Market St., Greensboro, N. C.; Walter A. Wood Supply Co., 4517 Rossville Blvd., Chattanooga, Tenn.

Geo. Leonard Speaker At Anderson Dinner

Anderson, S. C.—George Leonard, New York, treasurer of the Anderson Cottou Mills, was the speaker at the annual banquet of some 175 overseers and other employees. J. E. Gunter, overseer of the card room, was toastmaster.

J. M. Cathcart, assistant treasurer and general manager, praised the overseers and their assistants for the interest taken in their work. R. E. Ligon, Anderson textile manufacturer, and T. Frank Watkins, Anderson attorney, were other speakers. Mr. Watkins stressed the fact that the Anderson mill has not once showed a deficit despite the lean years since 1929.

Other speakers included J. R. Manly, superintendent; Jim Shumate, director, and Mayor G. T. McGregor.

CLASSIFIED ADS.

Large World Consumption Of Cotton Shown

World consumption of all kinds of cotton has increased substantially in every season since 1930-31 and during last season it was larger than the average of pre-depression years, according to statistics contained in the seventh Cotton Year Book of the New York Cotton Exchange. This book, which has just been issued, was prepared by the New York Cotton Exchange Service Bureau under the direction of Alston H. Garside, economist of the Exchange. With reference to world consumption of cotton, the book says in the introductory article:

"The total of 25,261,000 bales in 1933-34 compared with only 22,329,000 bales in 1930-31, and with a pre-depression average of around 24,750,000 bales. However, due largely to the fact that foreign production increased while American production was reduced, total world production continued high and ran closely in line with world consumption. World production aggregated 25,327,000 bales last season, compared with 23,585,000 the season previous, and a pre-depression average of about 25,500,000 bales. The consequence is that the world all-cotton carryover has not been reduced to normal proportions. The carryover at the end of the 1933-34 season totalled 16,281,000 bales, compared with 16,255,000 bales the year before, and a pre-depression average of around 9,000,000 bales."

The book contains comprehensive statistics on world supply and distribution of American and foreign growths of cotton, prices of cotton, yarns and cloth, mill activity, and other data of interest from a cotton market standpoint.

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Japanese Cotton Trade Continues To Prosper

While dismal reports as to the state of trade come from most of the European countries, that from Japan, as published in the International Cotton Bulletin, the official organ of the International Federation of Master Cotton Spinners' and Manufacturers' Association, is couched in glowing terms.

"The first half of 1934," says the Japanese report, "witnessed a continuance of the prosperity which the cotton industry enjoyed after the restoration of the gold embargo in 1931. Every index connected with the industry showed a healthy improvement in spite of the tariff measures enacted in British colonies against Japanese textile goods."

The report says it appears that Japanese spinners are gradually tending to buy more cotton from America than from British India.

Japanese cotton mills have succeeded not only in the field of cotton, but also in their investments in the rayon and woolen industry.

Dynamite Lonsdale Home

Seneca, S. C.—Early Wednesday morning the home of Homer F. Jamerson, manager of the Lonsdale store in the Lonsdale village, was dynamited. Trouble growing out of the recent textile strike is believed by many to be back of the episode. Two men are in jail in connection with the blast. No one was injured by the explosion, but the floor was torn up and windows broken. The family was in another part of the house at the time.

Southern Mfrs. Vote To Modify or Abandon NRA

Chattanooga, Tenn.—A majority of 6,000 Southern manufacturers who replied to a questionnaire believe the NRA "must be drastically modified or abandoned," according to a report made to the first annual meeting of the Southern States Industrial Council. The report was submitted by Mrs. Margaret Mager, research director for the council.

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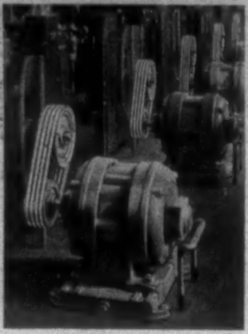

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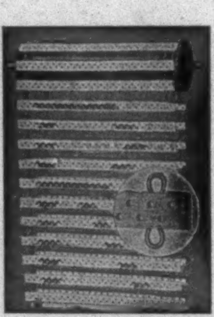

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